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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/829,584	04/22/2004	William Taylor	60027.0346US01/BS030286	6748

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EXAMINER	
SHIVERS, ASHLEY L	
ART UNIT	PAPER NUMBER
2619	
MAIL DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/829,584	TAYLOR ET AL.	
	Examiner	Art Unit	
	ASHLEY L. SHIVERS	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *3/17/2008 (Applicant's Amendment)*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-20 and 22-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,5-20 and 22-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on *22 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on March 17, 2008 has been entered. Claims 1-3, 5-20 and 22-28 have been amended. Claims 4 and 21 are canceled. No claims have been added. Claims 1-3, 5-20 and 22-28 are still pending in this application, with claims 1 and 18 being independent.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 3, 11-15, 17-18, 20 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino et al (**U.S. Patent No. 6,424,629**), hereinafter referred to as Rubino, in further view of Coile et al. (**U.S. Patent No. 6,108,300**), hereinafter referred to as Coile.

Regarding claim 1, Rubino teaches a method for automatically tracking the rerouting of logical circuit data in a data network, the method comprising:

generating current reroute statistics upon the rerouting of logical circuit data from one or more failed logical circuits to one or more logical failover circuits in the data network, the current reroute statistics including trap data received for the one or more failed logical circuits in the data network (**The first protocol layer logic monitors the status of the logical channels, and, based on the status of the logical channels, determines the status of the logical connections. When the first protocol layer logic detects a logical channel failure that results in a logical connection failure, the first protocol layer logic triggers a routing table update by sending a signal to the second protocol layer logic indicating that the logical connection failed; See col. 4 lines 44-52**);

generating a table for presenting the current reroute statistics without manual intervention (**The updated statistics are input into the routing table See col. 4 lines 47-52**);

generating updated rerouted statistics, the updated reroute statistics including updated trap data received for the one or more failed logical circuits in the data network (**When the first protocol layer logic determines that communication over the failed logical connection is restored, the first protocol layer logic triggers a routing table update by sending a signal to the second protocol layer logic indicating that the logical connection is restored; See col. 4 lines 52-57**); and

updating the table with the updated reroute statistics without manual intervention (**See col. 4 lines 52-57**)

wherein the current reroute statistics comprise trap data generated in "real-time" and communicated to a logical element module and not stored in switches that generated the trap data (**The updated reroute statistics are generated when the status of the logical connection changes and is not stored in the logical protocol, therefore since the status constantly changes, it would have been obvious to say that the information is kept in a temporary buffer; See col. 4 lines 52-57**).

While Rubino teaches of restoring the devices and restoring the original routing, Rubino fails to teach of renaming the logical identifiers until the failed logical circuit has been restored.

Coile teaches of wherein each of the one or more failed logical circuits and each of the one or more logical failover circuits in the data network is identified by a logical circuit identifier that is renamed until the one or more failed logical circuits has been restored (**An active device has the active IP and MAC addresses and the backup device has the standby IP and MAC addresses. When the active device fails, the backup device becomes active and the IP and MAC addresses are switched, therefore it would have been obvious that once the connection has been restored the active IP and MAC addresses would also be restored to their original devices; See col. 7 lines 5-6 and 13-14**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Rubino to include renaming the logical circuit identifiers until the failed logical circuit has been restored taught by Coile in order to make the seamless transition between routes.

Regarding claim 3, Rubino further teaches the method of claim 1, wherein the updated reroute statistics are generated upon the restoration of the one or more failed logical circuits in the data network (**See col. 4 lines 52-57**).

Regarding claim 11, Rubino further teaches the method of claim 1, wherein the logical circuit identifier is a virtual path/virtual circuit identifier (VPI/VCI) (**The ATM cell format includes a Virtual Path Identifier (VPI) field and a Virtual Channel Identifier (VCI) field; See col. 5 line 66 and col. 6 lines 1-2**).

Regarding claim 12, Rubino further teaches the method of claim 1, wherein at least one of the one or more logical circuits is a permanent virtual circuit (**One type of ATM virtual circuit supported by the ATM networks is a Permanent Virtual Circuit (PVC). A PVC is an ATM virtual circuit that is established once and remains active so long as the ATM network is operational; See col. 5 lines 9-12**).

Regarding claim 13, Rubino further teaches the method of claim 1, wherein at least one of the one or more logical failover circuits is a permanent virtual circuit (**One type of ATM virtual circuit supported by the ATM networks is a Permanent Virtual Circuit (PVC). A PVC is an ATM virtual circuit that is established once and remains active so long as the ATM network is operational; See col. 5 lines 9-12**).

Regarding claims 14 and 15, Rubino further teaches the method of claim 1, wherein at least one of the one or more logical circuits and at least one or more of the logical failover circuits is a switched virtual circuit (**The logical connection can include one or more SVCs; See col. 14 lines 42-43**).

Regarding claim 17, Rubino further teaches the method of claim 1, wherein the data network is an asynchronous transfer mode (ATM) network (**In the preferred implementation of this network, the routers communicate over an asynchronous transfer mode (ATM) network; See col. 4 lines 62-64**).

Regarding claim 18, Rubino teaches a system for automatically tracking the rerouting of logical circuit data in a data network, the system comprising:

a logical element module, in communication with the at least one network device, for receiving trap data generated by the at least one network device, wherein receiving the trap data generated by the at least one network device comprises receiving the trap data in "real-time" (**The first protocol layer logic monitors the status of the logical channels, and, based on the status of the logical channels, determines the status of the logical connections; See col. 4 lines 44-52**); and

a network management module, in communication with the logical element module (**Second protocol layer that sends routing table updates; See col. 4 lines 44-52**), for:

generating current reroute statistics upon the rerouting of logical circuit data from the one or more failed logical circuits to the one or more logical failover circuits, the current reroute statistics including the trap data received by the logical element module (**The first protocol layer logic triggers a routing table update by sending a signal to the second protocol layer logic indicating that the logical connection failed; See col. 4 lines 44-52**);

generating a table for presenting the current reroute statistics without manual intervention (**The updated statistics are input into the routing table See col. 4 lines 47-52**);

generating updated reroute statistics, the updated reroute statistics including the trap data received from the logical element module (**When the first protocol layer logic determines that communication over the failed logical connection is restored, the first protocol layer logic triggers a routing table update by sending a signal to the second protocol layer logic indicating that the logical connection is restored; See col. 4 lines 52-57**); and

updating the table with the updated reroute statistics without manual intervention (**See col. 4 lines 52-57**).

While Rubino teaches of restoring the devices and restoring the original routing, Rubino fails to teach of renaming the logical identifiers until the failed logical circuit has been restored.

Coile teaches of at least one network device for rerouting logical circuit data between one or more failed logical circuits to one or more logical failover circuits in the data network, wherein each of the one or more failed logical circuits and each of the one or more logical failover circuits in the data network is identified by a logical circuit identifier that is renamed when the until the one or more failed logical circuits has been restored (**An active device has the active IP and MAC addresses and the backup device has the standby IP and MAC addresses. When the active device fails, the backup device becomes active and the IP and MAC addresses are switched, therefore it would have been obvious that once the connection has been restored the active IP and MAC addresses would also be restored to their original devices; See col. 7 lines 5-6 and 13-14**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Rubino to include renaming the logical circuit identifiers until the failed logical circuit has been restored taught by Coile in order to make the seamless transition between routes.

Regarding claim 20, Rubino further teaches the system of claim 18, wherein the updated trap data is generated upon the restoration of the one or more failed logical circuits in the data network (**See col. 4 lines 52-57**).

Regarding claim 28, Rubino further teaches the system of claim 18, wherein the logical circuit identifier is a virtual path/virtual circuit identifier (VPI/VCI) (**The ATM cell format includes a Virtual Path Identifier (VPI) field and a Virtual Channel Identifier (VCI) field; See col. 5 line 66 and col. 6 lines 1-2**).

4. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino in view of Coile in further view of Bruno et al. (**U.S. Patent No. 5,894,475**), hereinafter referred to as Bruno.

Regarding claims 2 and 19, Rubino in view of Coile teaches the method/system of claims 1 and 18, respectively, but fails to teach of the billing report.

Bruno teaches of the method/system further comprising generating a billing report including the updated reroute statistics (**Billing information collected in an ATM network is then input into any billing system for generating a customer bill; See Fig. 3, 115-117 and col. 2 lines 2-3**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/system of Rubino in view of Coile to include a billing system taught by Bruno in order to allocate a fee based system for the use of the network.

5. Claims 5 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino in view of Coile in further view of Hsing et al. (**U.S. Patent No. 6,167,025**), hereinafter referred to as Hsing.

Regarding claims 5 and 22, Rubino in view of Coile fails to teach the method/system of claims 1 and 18, respectively, wherein the trap data comprises the logical identifiers for the failed logical circuits and the logical failover circuits.

Hsing teaches of the trap data comprising the logical identifier for each of the one or more failed logical circuits (**The VCC/VPC established at the time a communication session commences is assigned a unique virtual channel identifier (VCI) and/or virtual path identifier (VPI); See col. 2 lines 10-12**) and the logical identifier for each of the one or more logical failover circuits (**VPI/VCI values for virtual connections between switches established to re-route network traffic around failed nodes or links are assigned at the time of re-routing as opposed to the time at which a connection between a source and destination device is first established; See col. 4 lines 34-38**).

While the trap data is being updated in the VPI/VCI table, it would have been obvious to incorporate this information in the routing table since the routing table contains the source and destination information and the identifiers are able to do that.

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/system of Rubino in view of Coile to include a the trap data comprising the logical identifiers for the failed circuit and the logical failover circuit taught by Hsing in order to have updated information on the logical connections.

6. Claims 6 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino in view of Coile in further view of .

Regarding claims 6 and 23, Rubino in view of Coile fails to teach the method/system of claims l and 18, wherein the trap data comprises a current utilization of each of the one or more logical failover circuits

Shimizu teaches of updating utilization information (**The database updating unit processes the updating of the table information recorded in the utilization information database; See [0108] lines 1-4**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/system of Rubino in view of Coile to include a the trap data comprising a current utilization of each of the one or more logical failover circuits taught by Shimizu in order to have updated information on the bandwidth.

7. Claims 7 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino in view of Coile in further view of Haugli et al. (**U.S. PGPub 2004/0125776**), hereinafter referred to as Haugli.

Regarding claims 7 and 27 Rubino in view of Coile fails to teach the method/system of claims l and 18, respectively, wherein the trap data comprises the number of hops taken by each of the one or more logical failover circuits

Haugli teaches of the number of hops being included in the routing information (**The routing information for a message routed at source includes the number of hops and the ID of each hop; See [0067] lines 4-6**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/system of Rubino in view of Coile to include a the trap data comprising the number of hops taken by each of the one or more failover circuits taught by Haugli in order to indicate the length of the path traveled.

8. Claims 8-9 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino in view of Coile in further view of Bryenton et al. (**U.S. Patent No. 6,826,184**), hereinafter referred to as Bryenton.

Regarding claims 8 and 25, Rubino in view of Coile fails to teach of the method/system of claims l and 18, respectively, wherein the trap data comprises a quality of service parameter for each of the one or more logical failover circuits

Bryenton teaches of quality of service parameters (**The network operator provisions the QoS values that are supported through the switched path; See col. 5 lines 9-11**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/system of Rubino in view of Coile to include the quality of service parameters taught by Bryenton in order to maintain a standard level for data transmission during rerouting.

Regarding claims 9 and 26, Rubino in view of Coile fails to teach the method/system of claims 8 and 25, respectively, wherein the quality of service parameter comprises at least one of: an unspecified bit rate; a variable bit rate; and a committed bit rate.

Bryenton teaches of the quality of service parameter comprising at least one of an unspecified bit rate; a variable bit rate; and a committed bit rate (**See col. 4 lines 63-67 and col. 5 lines 1-4**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/system of Rubino in view of Coile to include the quality of service parameters taught by Bryenton in order to maintain a standard level for data transmission during rerouting.

9. Claims 10, 16 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubino in view of Coile in further view of Ashton et al. (**U.S. Patent No. 6,181,679**), hereinafter referred to as Ashton.

Regarding claims 10 and 27, Rubino in view of Coile fails to teach the method/system of claims 1 and 18, wherein the logical circuit identifier is a data link connection identifier (DLCI).

Ashton teaches of the first and second logical circuit identifiers being data link connection identifiers (DLCI) (**The virtual circuit segments are identified by a DLCI; See col. 3 lines 16-18**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method/system of Rubino in view of Coile to include the first and second logical circuit identifiers being data link connection identifiers taught by Ashton in order to tell the network how to route the data.

Regarding claim 16, Rubino in view of Coile fails to teach the method of claim 1, wherein the data network is a frame relay network.

Ashton teaches of the data network being a frame relay network (**Fig. 1 is shown as a frame relay network; See col. 4 lines 55-57**).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention, to modify the method of Rubino in view of Coile to include the data network being a frame relay network taught by Ashton in order to emphasize the type of network that can be implemented.

Response to Arguments

10. Applicant's arguments with respect to claims 1-3, 5-20 and 22-28 have been considered but are moot in view of the new ground(s) of rejection.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

12. Any response to this action should be **faxed** to (571) 273-8300 or **mailed** to:

Commissioner of Patents,
P.O. Box 1450
Alexandria, VA 22313-1450

Hand delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ASHLEY L. SHIVERS whose telephone number is (571) 270-3523. The examiner can normally be reached on Monday-Thursday 8:00-6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag Shah can be reached on (571) 272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ashley L Shivers/
Examiner, Art Unit 2619
6/19/2008

/Chirag G Shah/
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